

9/14/04
09/380,336**REMARKS**

Claims 1 and 10 have been amended. New claim 15 has been added. Upon entry of this amendment, claims 1-15 will be pending in the present application. Claim 10 has been amended to correct the duplication of claim 1.

The Examiner's indication that the subject matter of claim 4 is allowable is hereby acknowledged with appreciation.

The Examiner has objected to claim 10 because claim 10 is an exact duplicate of claim 1. Applicants have amended claim 10 to include an additional reaction step not found in claim 1. This reaction product is detected and bound by the lanthanide ion-ligand complex (i.e. the labeled reactant or immunoreactant). Support for this amendment is found page 9, lines 14-30. New dependent claim 15 is directed to the reaction step of claim 10 and support for new claim 15 is also found at page 9, lines 14-30 of the specification.

Rejection under 35 U.S.C. § 112

Claims 1-4, 6-7 and 10-11 have been rejected under 35 U.S.C. §112, second paragraph as being indefinite. Specifically, the Examiner has rejected claims 1 and 10 under 35 U.S.C. §112, second paragraph, on the basis that, in the Examiner's view claims 1 and 10 are, "... incomplete for omitting essential steps such omission amounting to a gap between steps." Applicants have amended claims 1 and 10 to incorporate the Examiner's suggestion to include a separation step to remove unbound lanthanide ion-ligand complex components prior to the irradiation step. Applicants believe that the amendment removes the basis for the Examiner's rejection. Accordingly, favorable reconsideration, entry of the amendment to claims 1 and 10, and withdrawal of the rejections under 35 U.S.C. § 112, second paragraph is respectfully requested.

Rejection Under 35 U.S.C. § 103(a)

Claims 1-3 and 5-14 have been rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent no. 5,830,769 (hereinafter "Wieder et al.") in view of U.S. Patent no. 6,159,686 (Kardos et al.) for the reasons of record in Paper No. 7. This rejection is respectfully traversed and reconsideration is requested for the reasons which follow and for the reasons given in the Declarations of Klemens Brunner which has been previously submitted in the present application.

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Wieder et al. discloses a lanthanide ion-ligand complex as described by the Examiner on page 5 and page 6, first paragraph, of the Office Action dated December 12, 2003. As the applicants have previously explained in their March 11, 2004 reply, the essential difference between the complex of the present invention and the lanthanide-ion-ligand complex of Wieder et al., is that Wieder et al. uses ligands of the types: polyaminocarboxylic acid, pyridine dicarboxylic acid and derivatives thereof. This ligand is the donor or sensitizer of the luminescence process. The energy input required to go from the ground state (S0) to the first excitation state (S1) for the donor or sensitizer employed by Wieder et al. is such that UV irradiation is needed to affect the excitation from the ground state (S0) to the excitation state (S1) (see Fig. 1 in the Brunner Declaration filed on July 12, 2003).

Whereas, the present invention uses a lanthanide ion-ligand complex wherein the donor or sensitizer ligand is a moiety such as rhodamine that requires an energy input to go from the ground state (S0) to the excitation state (S1) which is much smaller than in the case of Wieder et al.'s complexes, thereby allowing the use of visible light to affect the excitation, rather than the higher energy UV irradiation that is required to affect the excitation using the complexes of Wieder et al. The advantages of this novel method wherein visible light of lower energy than UV irradiation can be used, have been amply discussed in the specification and applicant's previous submissions and thus will not be repeated here.

Similarly, Applicants reiterate their previous discussions in regards to the Kardos et al. reference; namely Kardos et al. utilizes a near IR pump for excitation, not of visible light. Therefore, a combination of Wieder et al. and Kardos et al. will lead to a system that is far removed from the present invention, i.e. the sensitizing (donor) moiety employed is different, and thus the energy required to affect excitation is also different.

The Examiner stated in response to applicants' arguments filed 3/15/2004:

[C]laims 1 and 10 only recite that the ligand in the lanthanide ion-ligand complex comprises a sensitizing moiety. Both claims 1 and 10 do not exclude that the sensitising moiety is added as a separate component into the complex. Accordingly claims 1 and 10 read on the teaching of Weider et al.

See Final Rejection, pages 4-5.

Applicants have amended claims 1 and 10 to recite that the sensitizing moiety "is bonded to" the complex rather than the composition "comprising" the sensitising moiety thereby specifying that the ligand is bound to the lanthanide ion and is not a separate component in the mixture which can be added separately during the process, as the examiner suggested. Thus the lanthanide ion-ligand complex

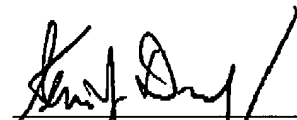
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forms a labelled reactant or immunoreactant before it is added to detect the analyte-specific binding partner complex. Applicants believe that this amendment overcomes the rejection under 35 U.S.C. §103(a). For the foregoing reasons, favorable consideration and withdrawal of the rejection under 35 U.S.C. §103(a) of claims 1-3 and 5-10 as unpatentable over Weider, et al. in view of Kardos, et al. is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully submits that all of the pending claims are in condition for allowance and respectfully requests a favorable Office Action so indicating.

Respectfully submitted,

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